QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

Note on a Congenital Band stretching Across the Origin of the Aorta.

Mr. Robert Samuels Archer, Assistant Physician to West Derby Union Hospital, Liverpool, records (*Dublin Journal of Medical Science*, May, 1878) the following note of a specimen which was procured from a case the subject of a coroner's inquiry:—

The aorta and left ventricle having been slit up in the usual manner, a band was found extending right across the aorta. This band was situated just above the line of insertion of the aortic valves, and when the vessel was closed must have flapped up and down in the blood current, as it lay quite loose and slack when the cut surfaces were approximated. Arising by an expansion of about half an inch wide, from that part of the aortic wall which lies just above the junction of the posterior and left lateral semilunar valves (its origin running in a diagonal direction from below, upwards and backwards), it gradually became narrower till it reached its insertion at the junction of the posterior and right lateral cusp of the valve. Its direction thus represented a cord, dividing the circumferential area of the vessel into two unequal arcs, the anterior containing the right and left semilunar valves, and the posterior the posterior valve. It was apparently composed of exactly the same kind of tissue as the valves, which were in every respect normal and competent. The heart and aorta appeared in all other respects to be quite normal during life.

There were no clinical observations made during life of the heart's sounds over the aortic area. Mr. Archer believes the band to have been congenital, and developed together with the semilunar valves, and he regards it as an irregular and supernumerary cusp. An extensive search in anatomical literature leads Mr. Archer to believe this anomaly to be extremely rare, if not quite unique.

Localization of Functions in the Spinal Cord.

Luchsinger has recently published three sets of experiments bearing on this subject (*Pfluger's Archiv*, Band xvi, Heft 9 and 10). The first is an application to the spinal cord of the well-known method employed by Kussmaul and Tenner in their researches on the brain. When the posterior half of the cord is suddenly deprived of blood, by simultaneous occlusion of the abdominal aorta and the subclavian arteries, convulsions take place, strictly limited to the hinder part of the body. The second has to do with the vaso-motor apparatus. The rise of arterial pressure, which is produced by arresting the entrance of air into the lungs, is usually attributed to a stimulant effect of the non-aerated blood upon the general vaso-motor centre in the medulla. Luchsinger shows that spasmodic contraction of the arterioles may be produced by the action of venous blood on the spinal cord after its separation from the medulla, or after the functional vitality of the latter has been abolished, in consequence of ligature of the vessels which supply it with blood. This experiment affords proof of the existence of independent vaso-motor centres in the cord. Lastly, it is usually taught that in picrotoxin, the active principle of the *Cocculus Indicus*, we have a poison which causes tetanic spasms by its selective action on a hypothetical "convulsion-centre" in the medulla oblongata. Luchsinger finds that it may cause convulsions in a part of the body whose innervation is derived from the spinal cord alone, and concludes that its operation is not restricted to any single "convulsion centre," but is coextensive with the motor elements in the gray matter of the anterior horns. The general inference from all the above lines of inquiry is that the proximate centres for all the functions of the trunk are situated in the spinal cord, and not restricted to its upper, highly specialized extremity.—*London Med. Record*, May 15, 1878.

MATERIA MEDICA AND THERAPEUTICS.

Toxic Properties of Carbolic Acid in Surgical Use.

IN the course of four years' experience of the antiseptic treatment, Dr. **KÜSTER** (Berlin) had met with five cases of poisoning by carbolic acid, four of which were fatal. On examining the literature of the subject, he had found seven mild cases of carbolic acid poisoning with one death, and thirteen severe cases with five deaths. His first case occurred in a woman aged 23, who had a stricture of the rectum, in the treatment of which the parts were repeatedly washed with a 2 per cent. solution of carbolic acid. This was twice followed by collapse, which was so severe the second time that she only recovered after employing artificial respiration for an hour. She died soon afterwards of pyæmia, and at the necropsy a large abscess-cavity was found surrounding the rectum, which might have contributed to the retention and absorption of the injected fluid. In a second case, the washing out of an empyematous cavity in a child with a 2½ per cent. solution of carbolic acid was followed by collapse, and death in three hours. In a third case, a woman, aged 39, had pelvic periostitis and discharge of pus through the bladder. Incision and washing out of the cavity with solution of carbolic acid were followed by collapse and a fall of temperature to 35° Cent. (95° Fahr.), and a second irrigation with a 5 per cent. solution, the next day, was followed by sudden death. The fourth case was one of resection of the hip in a child aged four and a half, who died unexpectedly the next day. The fifth death occurred in a woman aged 33, who, in consequence of erysipelas following an injury of the leg, had a large abscess under the right gluteus muscle, and suppuration of one knee. Death took place four hours after the suppurating cavities had been opened and injected with solution of carbolic acid. Not being able to ascribe these sudden deaths to shock, he made some experiments, to determine the question whether, as was probable, carbolic acid exerted a poisonous action in such cases. It had already been established by the experiments of others that cold-blooded animals were